

(j) On the airplane described in this paragraph, in addition to two gyroscopic bank and pitch indicators (artificial horizons) for use at the pilot stations, a third such instrument is installed in accordance with paragraph (k) of this section:

(1) On each turbojet powered airplane.

(2) On each turbopropeller powered airplane having a passenger-seat configuration of more than 30 seats, excluding each crewmember seat, or a payload capacity of more than 7,500 pounds.

(3) On each turbopropeller powered airplane having a passenger-seat configuration of 30 seats or fewer, excluding each crewmember seat, and a payload capacity of 7,500 pounds or less that is manufactured on or after March 20, 1997.

(4) After December 20, 2010, on each turbopropeller powered airplane having a passenger seat configuration of 10–30 seats and a payload capacity of 7,500 pounds or less that was manufactured before March 20, 1997.

(k) When required by paragraph (j) of this section, a third gyroscopic bank-and-pitch indicator (artificial horizon) that:

(1) Is powered from a source independent of the electrical generating system;

(2) Continues reliable operation for a minimum of 30 minutes after total failure of the electrical generating system;

(3) Operates independently of any other attitude indicating system;

(4) Is operative without selection after total failure of the electrical generating system;

(5) Is located on the instrument panel in a position acceptable to the Administrator that will make it plainly visible to and usable by each pilot at his or her station; and

(6) Is appropriately lighted during all phases of operation.

[Doc. No. 6258, 29 FR 19205, Dec. 31, 1964, as amended by Amdt. 121–57, 35 FR 304, Jan. 8, 1970; Amdt. 121–60, 35 FR 7108, May 6, 1970; Amdt. 121–81, 36 FR 23050, Dec. 3, 1971; Amdt. 121–130, 41 FR 47229, Oct. 28, 1976; Amdt. 121–230, 58 FR 12158, Mar. 3, 1993; Amdt. 121–251, 60 FR 65929, Dec. 20, 1995; Amdt. 121–262, 62 FR 13256, Mar. 19, 1997]

#### § 121.306 Portable electronic devices.

(a) Except as provided in paragraph (b) of this section, no person may operate, nor may any operator or pilot in command of an aircraft allow the operation of, any portable electronic device on any U.S.-registered civil aircraft operating under this part.

(b) Paragraph (a) of this section does not apply to—

(1) Portable voice recorders;

(2) Hearing aids;

(3) Heart pacemakers;

(4) Electric shavers; or

(5) Any other portable electronic device that the part 119 certificate holder has determined will not cause interference with the navigation or communication system of the aircraft on which it is to be used.

(c) The determination required by paragraph (b)(5) of this section shall be made by that part 119 certificate holder operating the particular device to be used.

[Doc. No. FAA–1998–4954, 64 FR 1080, Jan. 7, 1999]

#### § 121.307 Engine instruments.

Unless the Administrator allows or requires different instrumentation for turbine engine powered airplanes to provide equivalent safety, no person may conduct any operation under this part without the following engine instruments:

(a) A carburetor air temperature indicator for each engine.

(b) A cylinder head temperature indicator for each air-cooled engine.

(c) A fuel pressure indicator for each engine.

(d) A fuel flowmeter or fuel mixture indicator for each engine not equipped with an automatic altitude mixture control.

(e) A means for indicating fuel quantity in each fuel tank to be used.

(f) A manifold pressure indicator for each engine.

(g) An oil pressure indicator for each engine.

(h) An oil quantity indicator for each oil tank when a transfer or separate oil reserve supply is used.

(i) An oil-in temperature indicator for each engine.

(j) A tachometer for each engine.